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## "Federal Research and Development Funding in Fiscal Year 2000" Opening Statement Senate Commerce Subcommittee on Science, Technology and Space Thursday, April 15, 1999

I d like to welcome each of you here today as the Science, Technology, and Space Subcommittee examines and evaluates the current state of federal research and development (R&D) funding and the technology transfer process in the United States. We are at a critical juncture in our nation s history. Federal expenditures of both civilian and defense R&D as a percentage of GDP have dropped from 2.2 percent in 1965 to only 0.8 percent in 1999 -- nearly one third its value. While President Clinton s current budget request proposes a 3 percent increase in total civilian R&D spending, out year projections show a decline of nearly 8 percent, in inflation-adjusted dollars by fiscal year 2004. Even worse, the recently passed Senate and House Budget Resolutions project a decline for civilian R&D spending of 12.5 percent after inflation between fiscal years 1999 and 2004.

Today s hearing will focus on two important aspects of the American innovation system -- R&D and technology transfer. Together these elements have created the dominant and robust economy that we are currently enjoying. A dozen economic studies, including those of Nobel Prize winner Robert Solow, have demonstrated that technological progress has historically been the single most important factor in economic growth, having more than twice the impact of labor and capital. In today s booming economy, this fact is particularly evident. Our high tech companies provide one third of our economic output and generate one half of our economic growth. More amazing is the realization that communications and technology stocks now comprise 80 percent of the value of the stock market.

Throughout the past two years, I ve spent a considerable amount of time advocating for greater funding levels for civilian R&D. Together with my colleagues, I ve been trying to educate others on the value of the federal government s role in funding focused and peer-reviewed programs. While we have targeted the majority of our attention on the research phase of emerging technologies, we have not adequately addressed the next stage of the innovation system -- the technology transfer from the federal laboratories to industry and to state and local governments.

The Federal Laboratory Consortium, which we II hear from later this morning, is at the heart of this innovation. The consortium drives the process by channeling technical knowledge developed in federal laboratories to state, local and regional governments, and to private industry.

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The federal government s involvement in technology transfer stems from its desire to encourage employment and commercialization of federally-funded research inventions. It is through further development, refinement, and marketing by the private sector that our research investment is diffused throughout the economy to generate growth. We should strongly encourage the private sector s active and timely participation in this process, which in turn, enhances our national competitiveness.

Academic research, two-thirds of which is funded by the federal government, has had a tremendous impact on the U.S. economy. The Association for University Technology Managers estimates that approximately \$30 billion of economic activity and 250,000 jobs each year are attributable to commercializing academic innovation.

Before we begin this complex but yet important process and discuss the impact of the projected decreases in funding for both R&D and technology transfer, I would like to note that yesterday Senator Rockefeller and I introduced the Technology Transfer Commercialization Act of 1999. We believe that this legislation builds upon our work in the Federal Research Investment Act, reintroduced in January. This hearing will further demonstrate just how essential these reforms and funding levels are to the American innovative capacity. I look forward to hearing each of you as we engage ourselves in this most critical dialogue about the future of our national leadership in science and technology.